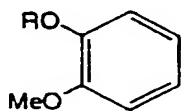
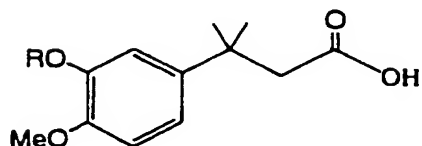


CLAIMS:

1. A process for producing a compound of formula (2), which comprises:
 reacting a compound of formula (1) with 3-methylcrotonic acid in the presence of
 5 an acid,



(1)



(2)

wherein R is a sulfonyl-type-protecting group, and Me is a methyl group.

2. The process as defined in claim 1, wherein the sulfonyl-type protecting
 group is represented by the formula: $-\text{SO}_2-\text{R}'$, wherein

R' is selected from the group consisting of an unsubstituted straight chain alkyl
 group having 1 to 10 carbon atoms; an unsubstituted branched chain alkyl group having 1
 to 10 carbon atoms, a substituted straight chain alkyl group having 1 to 10 carbon atoms; a
 substituted branched chain alkyl group having 1 to 10 carbon atoms; an unsubstituted aryl
 group having 6 to 15 carbon atoms, a substituted aryl group having 6 to 15 carbon atoms;
 an unsubstituted aralkyl group having 7 to 20 carbon atoms; and a substituted aralkyl
 group having 7 to 20 carbon atom.

3. The process as defined in claim 2, wherein said alkyl group is fluorinated.

4. The process as defined in claim 2, wherein said aralkyl group is fluorinated.

5

5. The process as defined in claim 1, wherein said sulfonyl-type protecting is selected from the group consisting of a benzene sulfonyl group, a p-toluene sulfonyl group, a p-bromobenzene sulfonyl group, a p-nitrobenzene sulfonyl group, a methane sulfonyl group, an ammonioalkane sulfonyl group, a trifluoromethane sulfonyl group, a nonafluorobuthane sulfonyl group, and a 2,2,2-trifluoroethane sulfonyl group.

10

6. The process as defined in claim 1, wherein said sulfonyl-type protecting group is selected from the group consisting of a methane sulfonyl group, a trifluoromethane sulfonyl group, and a p-toluene sulfonyl group.

15

7. The process as defined in claim 1, wherein said sulfonyl type protecting group is a methane sulfonyl group.

20

8. A process for producing 3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyric acid, which comprises:

converting the substituent at the 3-position in the phenyl group of the compound of formula (2) obtained by the process as defined in claim 1 to a hydroxyl group.

25

9. The process as defined in claim 8, wherein said converting the substituent at the 3-position comprises sulfonic acid ester hydrolysis.

10. A process for producing a 3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyl aldehyde, which comprises:

converting a carboxyl group in the
3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyric acid obtained by the process defined in
5 claim 8, into a formyl group.

11. A process for producing a 3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyl aldehyde, which comprises:

converting a carboxyl group in the
10 3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyric acid obtained by the process defined in
claim 9, into a formyl group.

12. A process for producing a 3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyl aldehyde, which comprises:

15 converting the 3-substituted-phenyl-3-methylbutyric acid obtained by the process
as defined in claim 1 to a hydroxyl group; and converting the carboxyl group thereof into a
formyl group.

13. The process as defined in claim 12, wherein said converting the
20 substituent at the 3-position comprises sulfonic acid ester hydrolysis.

14. A process for producing a
N-[N-[3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyl]-L- α -aspartyl]-L-phenylalanine
1-methyl ester, which comprises:

25 reductively alkylating the 3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyl
aldehyde obtained by the process as defined in claim 10 with aspartame.

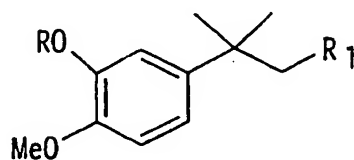
15. A process for producing a
N-[N-[3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyl]-L- α -aspartyl]-L-phenylalanine
1-methyl ester, which comprises:

reductively alkylating the 3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyl
5 aldehyde obtained by the process as defined in claim 11 with aspartame.

16. A process for producing a
N-[N-[3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyl]-L- α -aspartyl]-L-phenylalanine
1-methyl ester, which comprises:

10 reductively alkylating the 3-(3-hydroxy-4-methoxyphenyl)-3-methylbutyl
aldehyde obtained by the process as defined in claim 12 with aspartame.

17. A compound of formula (3):



(3)

15 wherein R is a sulfonyl type protecting group; Me is a methyl group; and R₁ is a
carboxyl group, a formyl group or a hydroxymethyl group.

18. The compound as defined in claim 17, wherein R is a protecting group
20 represented by the formula: $-\text{SO}_2-\text{R}'$,

R' is selected from the group consisting of an unsubstituted straight chain alkyl
group having 1 to 10 carbon atoms; an unsubstituted branched chain alkyl group having 1

to 10 carbon atoms, a substituted straight chain alkyl group having 1 to 10 carbon atoms; a substituted branched chain alkyl group having 1 to 10 carbon atoms; an unsubstituted aryl group having 6 to 15 carbon atoms, a substituted aryl group having 6 to 15 carbon atoms; an unsubstituted aralkyl group having 7 to 20 carbon atoms; and a substituted aralkyl group having 7 to 20 carbon atom.

19. The compound as defined in claim 17, wherein said alkyl group is fluorinated.

20. The compound as defined in claim 17, wherein said aralkyl group is fluorinated.

21. The compound as defined in claim 17, wherein

R₁ is a carboxyl group, and

R is selected from the group consisting of a benzene sulfonyl group, a p-toluene sulfonyl group, a p-bromobenzene sulfonyl group, a p-nitrobenzene sulfonyl group, a methane sulfonyl group, an ammonioalkane sulfonyl group, a trifluoromethane sulfonyl group, a nonafluorobutane sulfonyl group, and a 2,2,2-trifluoroethane sulfonyl group

22. The compound as defined in claim 17, wherein

R₁ is a carboxyl group, and

R is selected from the group consisting of a methane sulfonyl group, a trifluoromethane sulfonyl group, and a p-toluene sulfonyl group.

23. The compound as defined in claim 17, wherein R₁ is a carboxyl group, and R is a methane sulfonyl group.

24. 3-(3-methanesulfonyloxy-4-methoxyphenyl)-3-methylbutyric acid.